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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,414	05/04/2004	Chih-Hua Tsai	10013-US-PA	3413
31561 7590 07/03/2007 JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			EXAMINER WANG, KENT F	
			ART UNIT 2622	PAPER NUMBER
			NOTIFICATION DATE 07/03/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

Office Action Summary	Application No.	Applicant(s)	
	10/709,414	TSAI, CHIH-HUA	
	Examiner	Art Unit	
	Kent Wang	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 2 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yamazaki, US 6,597,348.

Regarding claim 1, Yamazaki discloses a preview system (information-processing device), for a digital camera, comprising:

- an image capture apparatus (a digital camera 2001), for generating a first image signal (col. 14, lines 26-30 and Fig. 12A);
- an image signal processor (color video signal generating circuit 403, Fig. 2), for correcting the first image signal (R, G, and B) in order to generate a second image signal (R1, G1, and B1) with gray scale characteristics (col. 4, lines 38-63); and
- a display device (a liquid-crystal display unit 101, Fig. 1), for providing an image preview function according to the second image signal (col. 3, lines 60-64).

Regarding claim 2, Yamazaki discloses the display device comprises a super-twisted nematic liquid crystal display (a nematic liquid crystal in twist-nematic mode 101) (col. 3, lines 60-66).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki in view of Gong, "A Novel Structure to Improve the Viewing Angle Characteristics of Twisted-Nematic Liquid Crystal Displays", JJAP, Vol. 38, 1999.

Regarding claim 3, Yamazaki discloses a display device comprises a twisted nematic liquid crystal display.

Yamazaki does not explicitly disclose the twisted nematic liquid crystal display comprises a multiple gray scale super-twisted nematic liquid crystal display.

Gong discloses a twisted nematic liquid crystal display comprises a multiple gray scale twisted nematic liquid crystal display (eight gray scales) (see Gong page 4111, Section 3, first paragraph).

Gong and Yamazaki are analogous art because they are from the same field of improving the viewing characteristics of twisted nematic LCD. At the time of the invention, it would have been obvious to a person of the ordinary skill in the art to use Gong's multiple gray scales in Yamazaki's information-processing device. The suggestion/motivation would have been to enable the twisted nematic LCD with multiple gray scales provides more uniform viewing-angle characteristics and no

excessively dark or excessively bright images are observed over the entire viewing angle range of the display (Gong page 4110, abstract section).

Regarding claim 4, Gong discloses the twisted nematic liquid crystal display comprises a black and white scale twisted nematic liquid crystal display (black and gray level) (see Gong page 4111, Section 3, second paragraph).

8. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki in view of Gong, and further in view of Xie, "Permanent Grayscale in Bistable Twisted Nematic Liquid-Crystal Displays", Applied Physics Letters, Vol. 81, No. 14, 2002.

Regarding claim 5, Yamazaki and Gong disclose the twisted nematic liquid crystal display comprises a black and white scale twisted nematic liquid crystal display.

Yamazaki and Gong do not explicitly disclose the black and white scale twisted nematic liquid crystal display employs dithering technique to mimic a multiple gray scale twisted nematic liquid crystal display.

Xie discloses the black and white scale twisted nematic liquid crystal display employs dithering technique to mimic a multiple gray scale super-twisted nematic liquid crystal display (dithering can be used to obtain gray levels) (see Xie page 2553, second paragraph).

Xie, Gong, and Yamazaki are analogous art because they are from the same field of twisted nematic LCD. At the time of the invention, it would have been obvious to a person of the ordinary skill in the art to use Xie's dithering technique in Yamazaki and Gong's multiple gray scales. The suggestion/motivation would have been to

enable the spatial dithering technique to provide an excellent gray level separation and a contrast ratio that extends along both the vertical and horizontal directions.

9. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamazaki in view of Horiuchi, US 2003/0095192.

Regarding claim 6, Yamazaki discloses a preview system comprising an image capture apparatus, an image signal processor, and a display device.

Yamazaki does not explicitly disclose the system further comprising a Bayer data accumulator, a brightness scalar, a Gamma correction circuit, or a 2D-image scalar.

Horiuchi discloses an image signal processor (see Fig. 13) further comprises:

- a Bayer data accumulator (scene information distribution calculating circuit 51, Fig. 13), for receiving the first image signal (aa) to generate a first temporary image signal (bb) (See Fig. 13 and [0104]);
- a brightness scalar (scene information analyzing circuit 52, Fig. 13), for receiving the first temporary image signal (bb) to generate a second temporary signal (cc) ([0105]);
- a Gamma correction circuit (conditions-for-exposure judging circuit 53, Fig. 13), for receiving the second temporary image signal (cc) to generate a third temporary image signal (ee) (Fig. 13 and [0106]); and
- a 2D-image scalar (conditions-for-exposure changing circuit 54, Fig. 13), for receiving the third temporary image signal (ee) to generate the second image signal (gg) (Fig. 13 and [0108]).

Horiuchi and Yamazaki are analogous art because they are from the same field of improving the characteristics of liquid crystal device. At the time of the invention, it would have been obvious to a person of the ordinary skill in the art to use Horiuchi's devices in Yamazaki's information-processing device. The suggestion/motivation would have been to enable the system capable of substantially reproducing an image obtainable with a wide dynamic rang (Horiuchi [0003]).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Itoh et al. (US 6,836,293) disclose an image processing method capable of improving the picture quality.
- Kuroiwa (US 2002/0109779) discloses a system providing a technique for compression processing in an electronic camera that evaluates the quality of each of image data groups taken sequentially by an imaging section and records high-rank image data selectively and in a related image processing program.

Inquiries


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent Wang whose telephone number is 571-270-1703. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc Yen Vu can be reached on 571-272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-270-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kent Wang
19 June 2007


NGOC-YEN VU
SUPERVISORY PATENT EXAMINER